



THERALASE TECHNOLOGIES INC.

ANNUAL INFORMATION FORM

in respect of the year-ended December 31, 2017

July 30, 2018

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INTERPRETATION

As used in this Annual Information Form (“AIF”), unless the context indicates or requires otherwise, the terms **Theralase**” or **“Company”** refer to Theralase Technologies Inc. (including, where applicable, its predecessor entities) and its subsidiaries. Unless otherwise stated, the information contained in this AIF is as of July 30, 2018.

The Company’s functional currency is Canadian dollars. Accordingly, all dollar amounts herein are expressed in Canadian dollars and financial information in this AIF regarding the Company has been prepared in accordance with applicable International Financial Reporting Standards, as issued by the International Accounting Standards Board.

FORWARD-LOOKING STATEMENTS

This AIF contains forward-looking information and statements within the meaning of applicable Canadian securities laws (herein referred to as **“Forward-Looking Statements”** or **“FLS”**) that involve known and unknown risks, uncertainties and other factors that may cause actual results, performance, achievements or industry results to be materially different from any future results, performance, achievements or industry results expressed or implied by such FLS. All information and statements in this AIF which are not statements of historical fact may be FLS. Such statements and information may be identified by looking for words such as **“may”, “believe”, “could”, “expect”, “will”, “intend”, “should”, “plan”, “objective”, “predict”, “potential”, “project”, “anticipate”, “estimate”, “suggest”, “continuous”** or similar words or the negative thereof or other comparable terminology, including references to assumptions. Such information may involve, but is not limited to, comments with respect to strategies, expectations, planned operations or future actions.

FLS included in this AIF; include, but are not limited to, statements with respect to: the outlook of the revenues, business and timing of initiatives of Theralase; the competitive environment in which Theralase operates; the business strategy and objectives of Theralase; research, development and/or commercialization plans, as well as acquisition and disposition plans of Theralase; preclinical and/or clinical studies, status, timing and/or strategies; the supply and demand of products or services; Theralase's future revenue projections; Theralase’s ability to meet its current and future obligations; Theralase’s ability to execute its business and/or growth strategy; management’s assessment of future plans and/or operations; the intention and/or ability of Theralase to pay dividends on the Common Shares (**“Common Shares”**).

Readers are cautioned not to place undue reliance on FLS as there can be no assurance that the plans, intentions or expectations upon which they are based will occur. By their nature, FLS involve numerous assumptions, known and unknown risks and uncertainties, both general and specific, that contribute to the possibility that the predictions, forecasts, projections and other things contemplated by the FLS will not occur. Such FLS or information are based on a number of assumptions which may prove to be incorrect, including those assumptions listed below and those discussed elsewhere in this AIF. Some of the assumptions made by Theralase, upon which such FLS are based, include assumptions about: the business operations of Theralase continuing on a basis consistent with prior years; the ability of Theralase to access financing from time to time on favourable terms or at all; the continuation of executive management, operating management, key personnel or key consultants or the non-disruptive replacement of them on reasonable terms; the ability of Theralase to maintain reasonably stable operating and general administrative expenses; future success of current research, development and/or

commercialization activities of Theralase; the ability of Theralase to achieve development and/or commercial milestones; market competition; the ability of Theralase to secure all necessary regulatory and/or certification approvals; geographic protection over the intellectual property of Theralase in the markets in which Theralase does business; market acceptance and/or revenue generation of Theralase's products under development; the stability of current economic conditions, the strength of the economy in Canada, the United States and elsewhere; currency, exchange and/or interest rates and commodity prices being reasonably stable at current rates.

FLS reflect current expectations of management regarding future events and operating performance as of the date of this AIF. Such information: involves significant risks and uncertainties; should not be read as guarantees of future performance and/or results; and will not necessarily be accurate indications of whether or not such results will be achieved. A number of factors could cause actual results to differ materially from the results discussed in the FLS, including, but not limited to, the risks related to: limited operating history; working capital and capital resources; ability to retain key personnel; protection of intellectual property; competition; implementation delays; strategic alliances; trade secret protection; product deficiencies; dependence on third party suppliers; volatility of share price; regulatory risks; early stage of product development; reliance on third parties; clinical study and study risk; clinical study timing delays; patient enrolment; failure to achieve milestones; currency risk; material weakness in internal control over financial reporting; credit risk; product liability and patent-related rights of the U.S. government in Photo Dynamic Therapy ("PDT") technology. See "Risk Factors".

ALTHOUGH THE FLS CONTAINED IN THIS AIF ARE BASED UPON WHAT THERALASE'S MANAGEMENT BELIEVES TO BE REASONABLE ASSUMPTIONS, THERALASE CANNOT ASSURE READERS THAT ACTUAL RESULTS WILL BE CONSISTENT WITH SUCH INFORMATION. FLS REFLECT MANAGEMENT'S CURRENT BELIEFS AND ARE BASED ON INFORMATION CURRENTLY AVAILABLE TO THERALASE. READERS OF THIS AIF ARE CAUTIONED NOT TO PLACE UNDUE RELIANCE ON THERALASE'S FLS BECAUSE A NUMBER OF FACTORS, SUCH AS THOSE REFERRED TO IN THE PARAGRAPH ABOVE, COULD CAUSE ACTUAL FUTURE RESULTS, CONDITIONS, ACTIONS OR EVENTS TO DIFFER MATERIALLY FROM THE TARGETS, EXPECTATIONS, ESTIMATES AND/OR INTENTIONS EXPRESSED IN THE FLS CONTAINED IN THIS AIF. THE FLS ARE MADE AS OF THE DATE OF THIS AIF AND THERALASE ASSUMES NO OBLIGATION TO UPDATE OR REVISE SUCH INFORMATION TO REFLECT NEW EVENTS OR CIRCUMSTANCES, EXCEPT AS MAY BE REQUIRED BY APPLICABLE LAW.

CORPORATE STRUCTURE

Name, Address and Incorporation

The Company was originally incorporated under the *Canada Business Corporation Act* ("CBCA") by Articles of Incorporation dated August 22, 1989, under the name Interstar Mining Group Inc. By Articles of Amendment dated October 28, 2003, the Company changed its name to Interstar Group Inc. On November 11, 2003, Interstar Group Inc. completed a reverse takeover of Theralase Inc., a privately held CBCA company, and by way of share exchange acquired 100% of the issued and outstanding shares of Theralase Inc. The Company then changed its name to Theralase Technologies Inc., by Articles of Amendment dated September 22, 2004.

The registered office and head office of the Company is located at:

41 Hollinger Road,
Toronto, Ontario, M4B 3G4, CANADA
Telephone: (416) 699-LASE (5273)
Toll free: 1 (866) THE-LASE (843-5273)
Fax: (416) 699-5250
www.thermalase.com

The Company leases approximately 9,200 square feet of office and manufacturing space in Toronto, Ontario, Canada. The premises provide Thermalase with ISO-13485:2003 certified laser design and manufacturing space, as well as corporate office space.

Intercorporate Relationships

The Company has two 100% owned direct subsidiaries, specifically: Thermalase Inc. and Thermalase Biotech Inc.

Thermalase Inc. is the operating company acquired pursuant to the reverse takeover noted above and was incorporated pursuant to the CBCA by way of Articles of Incorporation on July 13, 1995. Its registered and head office is located at the address set out above under the heading "Name, Address and Incorporation".

Thermalase Biotech Inc. was incorporated under the *General Corporation Law* of Delaware, U.S.A. (Title 8, Chapter 1), by way of Certificate of Incorporation dated May 7, 2004.

SUMMARY DESCRIPTION OF THE BUSINESS

General Overview

Thermalase is a clinical stage pharmaceutical company dedicated to the research and development of light activated Photo Dynamic Compounds ("PDCs") and their associated drug formulations, intended to safely and effectively destroy cancer.

The Company in its Cool Laser Division designs, manufactures and distributes patented and proprietary super-pulsed cool laser technology for the treatment of knee pain, and in off-label use, the treatment of numerous nerve, muscle and joint conditions.

Anti-Cancer Division

The Company's primary technology is PDT, which is the preclinical and clinical research and development of PDCs and the laser light systems that activate them, primarily intended for the destruction of specific cancers.

Thermalase's Study (as defined herein) drug is called TLD-1433, a PDC that is soluble and stable in water for 72 hours. It is able to bind with endogenous transferrin, a human glycoprotein. This combined molecule is able to localize to cancer cells, which generally have more transferrin receptors versus

healthy cells. When the combined molecule is laser light activated, it is able to destroy bladder cancer cells through the production of singlet oxygen and/or reactive oxygen species.

Theralase's lead cancer indication is Non-Muscle Invasive Bladder Cancer ("**NMIBC**").

Theralase has completed a Phase Ib NMIBC clinical study ("**Study**") for high-risk, Bacillus Calmette-Guerin ("**BCG**") unresponsive patients diagnosed with NMIBC.

The Study entitled, "*A Phase Ib Trial of Intravesical Photo Dynamic Therapy in Patients with NMIBC at High Risk of Progression, Who are Refractory to Therapy with Bacillus Calmette-Guerin and Who are Medically Unfit for or Refuse a Cystectomy*" commenced treating patients in March 2017 and to date has treated three patients at the Maximum Recommended Starting Dose ("**MRSD**") (0.35 mg/cm²) and three patients at the Therapeutic Dose (0.70 mg/cm²) of TLD-1433 PDC activated by laser light (525 nm, 90 J/cm²) delivered through a combination of the TLC-3200 Medical Laser System, Laser Emitter ("**TLC-3203**") and Dosimetry Cage ("**TLC-3204**").

Study Outcome Endpoints:

- 1) **Primary:** Evaluate safety and tolerability. (Measured by patients who experience Adverse Events ("**AEs**") Grade 4 or greater that do not resolve within thirty (30) days; whereby: Grade 1 = Mild AE, Grade 2 = Moderate AE, Grade 3 = Severe AE, Grade 4 = Life-threatening or disabling AE, Grade 5 = Death)
- 2) **Secondary:** Evaluate the pharmacokinetics. (Movement and exit of drug within tissue) of TLD-1433 (Measured by TLD-1433 concentration levels in plasma and urine over 72 hours)
- 3) **Exploratory:** Evaluate efficacy. (Measured by Recurrence Free Survival, defined as the interval from Day 0 (Day of PDT treatment) to documented recurrence or death from any cause, whichever occurs first. Recurrence is defined as any new tumour growth (i.e.: any biopsy-confirmed new or recurrent tumour), evaluated at 90 days for the first three patients treated at the MRSD and primarily at 90 days for the last six patients treated at the Therapeutic Dose and secondarily at 180 days post treatment)

Final Data Results:

In the first part of the Study, three patients were enrolled and treated with PDT (TLC-3200 / TLC-3203 / TLC-3204) at the MRSD of TLD-1433. Treatment at the MRSD did not raise significant safety concerns, as determined by the independent Data Safety Monitoring Board; therefore, approval was received to enroll and treat up to an additional six patients at the Therapeutic Dose. Under the approval an additional three patients were enrolled and treated with PDT at the Therapeutic Dose of TLD-1433.

- The first three patients treated at the MRSD successfully achieved the primary, secondary and exploratory outcome measures at 90 days post treatment.
- Patient four treated at the Therapeutic Dose successfully achieved the primary, secondary and exploratory outcome measures at 90 days post treatment. During the 90 day cystoscopy analysis, patient number four's bladder surface wall was observed to be red and inflamed. At 138 days, the patient underwent a Trans-Urethral Resection of the Bladder Tumour procedure

and although there was no progressive disease in the bladder, was found to have developed metastatic urothelial carcinoma.

- Patient five treated at the Therapeutic Dose successfully achieved the primary, secondary and exploratory outcome measures at 90 days post treatment. At the 90 day cystoscopy assessment, completed in April 2018, no clinical evidence of bladder tumour recurrence or presence was detected. At the 180 day cystoscopy assessment, completed in July 2018, no clinical evidence of bladder tumour recurrence or presence was detected.
- Patient six treated at the Therapeutic Dose successfully achieved the primary, secondary and exploratory outcome measures at 90 days post treatment. At the 90 day cystoscopy assessment, completed in May 2018, no clinical evidence of bladder tumour recurrence or presence was detected. The patient is scheduled to be evaluated at the 180 cystoscopy assessment in August 2018.

Conclusions:

Light activated TLD-1433 PDC, based on the first six (6) patients treated, has preliminarily shown:

- 1) A high level of safety and tolerability based on clinical evaluation and pharmacokinetic analysis, in patients with high risk, BCG-Unresponsive NMIBC, at the 180 day post PDT treatment cystoscopy assessment, when treated at the MSRD;
- 2) A high level of safety and tolerability based on clinical evaluation and pharmacokinetic analysis, in patients with high risk, BCG-Unresponsive NMIBC, at the 90 day post PDT treatment cystoscopy assessment, when treated at the Therapeutic Dose;
- 3) An ability to delay progression of NMIBC at the 180 day post treatment cystoscopy analysis, when treated at the MSRD;
- 4) A delay in recurrence and progression of NMIBC at the 90 day post treatment cystoscopy analysis, when treated at the Therapeutic Dose.
- 5) Patient five treated at the Therapeutic Dose has no clinical evidence of bladder tumour recurrence or presence at the 180 day cystoscopy assessment, completed in July 2018.
- 6) Patient six treated at the Therapeutic Dose is scheduled to be evaluated at the 180 cystoscopy assessment in August 2018.

Safety and tolerability of the PDT procedure was demonstrated and unanimously confirmed by the Medical and Scientific Advisory Board (“**MSAB**”) on May 19, 2018. As a result, the MSAB voted to terminate the Study early and commence the design of a multi-center Phase II NMIBC clinical study (“**Study II**”) with a primary endpoint of efficacy to be conducted primarily in Canada, the United States and potentially internationally, subject to Health Canada, United States Food and Drug Administration (“**FDA**”) and international regulatory approval.

The primary endpoint of efficacy will be determined by Complete Response (“**CR**”) and duration of CR in approximately 100 patients who present with Carcinoma In-Situ, with or without resected papillary disease (Ta), are considered BCG-Unresponsive and meet the inclusion / exclusion criteria of Study II.

The PDT technology is currently under clinical development and as a result there are no commercial benefits associated with the Anti-Cancer Division at the present time, resulting in no revenue, sales or distribution of this technology.

Theralase conducts its own research and development into this technology, as well as enlisting the support of external scientific, research development, regulatory and clinical organizations.

The estimated timing of completion of Study II is approximately 3 years from regulatory approval, but may vary significantly depending on numerous factors including: number of oncology sites, oncology site patient enrollment rates, patient compliance, treatment success and/or successful achievement of clinical Study II endpoints.

Therapeutic Laser Division

TLC-1000 Therapeutic Laser Product:

The Theralase® TLC-1000 therapeutic laser system is a non-invasive, superpulsed, dual wavelength, multiple diode laser system that has three specifically designed probes used to treat knee pain and when used off-label to treat other neural muscular skeletal conditions. It can be supplied with a multiple probe to treat large regions, a triple probe to treat medium sized regions and a single probe to treat small regions.

The TLC-1000 is Health Canada approved and FDA cleared for knee pain, under a blinded, randomized clinical study *“Adjunctive Use in the Temporary Relief of Pain Associated with Knee Disorders”* and is a legacy product in the Company’s current sales and marketing initiatives.

The Company launched the TLC-900 therapeutic laser series from this platform, which uses similar laser probes, but eliminates the controller by placing a microprocessor and display into each of the three laser probes. The TLC-900, is an adaptation of the TLC-1000, that reduces portability and memory functions, but as a benefit reduces manufacturing costs and hence retail sales pricing.

TLC-2000 Therapeutic Laser Product:

The Theralase® TLC-2000 biofeedback therapeutic laser system is a non-invasive, superpulsed, dual wavelength, multiple diode laser system that has a multiple probe and is used to treat knee pain and when used off-label to treat other neural muscular skeletal conditions. It can control up to four (4) multiple laser probes. Each multiple laser probe connects to a computer wirelessly, which in turn connects to the internet.

The TLC-2000 is Health Canada approved and United States FDA cleared for knee pain and is the latest product in the Company’s current sales and marketing initiatives.

The TLC-2000 received Health Canada and FDA regulatory approval in late 2015 for the treatment of knee pain. Regulatory approval for “biofeedback” or patented “Cell Sensing®” technology was not sought or obtained from Health Canada or the FDA at that time. The Company initially applied for Health Canada and FDA approval of “Cell Sensing®” technology in the first quarter of 2017. The review period for the initial applications has expired and new applications have been submitted with Health Canada and the FDA. Theralase is currently working with Health Canada and the FDA to approve “CellSensing®” technology, which would allow the TLC-2000 therapeutic laser system to automatically adjust energy at the tissue surface to allow a consistent energy at tissue depth independent of a patient’s physical characteristics.

Theralase is developing new software, firmware and hardware for the TLC-2000, currently on temporary hold, intended to allow commencement of a recurring revenue model and insurance reimbursement. Regulatory approval of the enhancements by Health Canada and the FDA will be subject to certain assumptions including: the Company having sufficient funding to complete the work, the scope and parameters of the redesign work not being materially altered with reference to ongoing field testing, key opinion leader input or regulatory input.

The review period for the initial applications to expand the scope of the current clearances beyond knee pain has expired. Updated applications will be re-submitted to Health Canada and the FDA.

Manufacturing, Distribution and Service:

Theralase derives 100% of its current revenue from the sale of the TLC-900, TLC-1000 and TLC-2000 therapeutic laser systems to healthcare practitioners, primarily in Canada and the US and warranty service of the installed product base of TLC-900 and TLC-1000 systems.

Principal target markets for the Company's products are healthcare practitioners, which include: medical doctors, chiropractors, physical therapists, athletic therapists, professional sport teams, sports injury clinics, podiatrists, chiropodists, naturopathic doctors, registered massage therapists and veterinarians.

Geographic primary markets include: United States of America and Canada, but Theralase has made inroads internationally into certain Middle Eastern and Asia Pacific markets.

Research, design, manufacturing, marketing, sales, distribution and customer service activities are directed from the Canadian head office.

Sales in Canada and the United States are accomplished through designated Territory Sales Managers ("TSMs"), who operate in specific geographic regions, selling directly to healthcare practitioners.

The Company executes its sales internationally directly or indirectly through distributors, who operate in a specific geographic region, by purchasing products at wholesale pricing and then distributing the products at retail pricing. If exclusivity is negotiated in the distribution agreement, then it is maintained through the achievement of agreed upon minimum annual sales performance criteria.

Theralase subcontracts the manufacture of therapeutic laser components and assemblies through various manufacturing facilities. Theralase completes the final assembly of therapeutic lasers either at external manufacturing facilities or in a laser manufacturing center located at the corporate head office.

All Theralase products are intended to be designed and manufactured in compliance with applicable international medical performance, quality and regulatory standards.

In the completion of its research and development, the Company uses a combination of internal and external specialists, including: design engineers, research scientists, healthcare and medical practitioners.

Key management positions are filled with experienced personnel and the Company generally employs outside employee search organizations to recruit new personnel, based on the Company's strategic objectives.

Intellectual Property

The Company has been assigned and/or licensed its PDC and laser system technology.

The Company has agreements governing the licensing of its PDCs from both Virginia Tech Intellectual Property ("VTIP") office and Dr. Sherri McFarland of Acadia University.

Patents:

TLT Division: (TLC-2000 Patents)

Title: Therapeutic laser device and method including noninvasive subsurface monitoring and controlling means

Abstract:

A method is provided for treating a patient having a disorder, wherein the method includes irradiating a tissue surface of the patient with at least one laser beam, automatically monitoring the tissue, and automatically controlling the at least one laser beam to adjust and/or terminate the treatment in a therapeutically effective manner. The method noninvasively determines in real-time the irradiance and/or radiant exposure of a target tissue at a predetermined depth below the tissue surface by detecting the radial dependence of light remitted from the tissue surface. Preferably, the method employs a near-infrared light laser beam and a visible laser light beam in combination. An apparatus for performing the method is also provided.

Issued Patents:

USA: 6,413,267	Granted: July 2, 2002	Expiry: August 9, 2019
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Canada: 2,315,521	Granted: July 5, 2011	Expiry: August 9, 2020
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Belgium, Italy, United Kingdom, Germany, France, Spain: EP1075854

Granted: November 10, 2004 Expiry: August 8, 2020 (August 9, 2020 in Germany)

PDT Division (TLC-3000 Patents):

Title: Supramolecular complexes as photoactivated DNA cleavage agents

Abstract:

The invention provides supramolecular metal complexes as DNA cleaving agents. In the complexes, charge is transferred from one light absorbing metal (e.g. Ru or Os) to an electron accepting metal (e.g. Rh) via a bridging pi-acceptor ligand. A bioactive metal-to-metal charge transfer state capable of cleaving DNA is thus generated. The complexes function when irradiated with low energy visible light with or without molecular oxygen.

Issued Patent:

USA: 6,962,910

Granted: November 8, 2005

Expiry: December 6, 2023

Title: Supramolecular complexes as photoactivated DNA cleavage agents

Abstract:

The invention provides supramolecular metal complexes as DNA cleaving agents. In the complexes, charge is transferred from one light absorbing metal (e.g. Ru or Os) to an electron accepting metal (e.g. Rh) via a bridging pi-acceptor ligand. A bioactive metal-to-metal charge transfer state capable of cleaving DNA is thus generated. The complexes function when irradiated with low energy visible light with or without molecular oxygen.

Issued Patent:

USA: 7,612,057

Granted: November 3, 2009

Expiry: January 31, 2023

Title: Supramolecular metallic complexes exhibiting both DNA binding and photocleavage

Abstract:

Supramolecular complexes that target and cleave DNA are provided. The supramolecular complexes include at least one metal-to-ligand charge transfer (MLCT) light absorbing unit, at least one Pt based DNA binding unit, and at least one bridging unit that serves to connect the components. The Pt-based DNA binding unit binds the complex to DNA, and the MLCT unit absorbs light, thereby sensitizing molecular oxygen to produce ROS in close proximity to the complex and the bound DNA. The ROS cleave the bound DNA.

Issued Patent:

USA: 8,148,360

Granted: April 3, 2012

Expiry: January 3, 2030

Title: Supramolecular complexes as photoactivated DNA cleavage agents

Abstract:

The invention provides supramolecular metal complexes as DNA cleaving agents. In the complexes, charge is transferred from one light absorbing metal (e.g. Ru or Os) to an electron accepting metal (e.g. Rh) via a bridging pi-acceptor ligand. A bioactive metal-to-metal charge transfer state capable of cleaving DNA is thus generated. The complexes function when irradiated with low energy visible light with or without molecular oxygen.

Issued Patent:**USA:** 8,445,475**Granted:** May 21, 2013**Expiry:** January 31, 2023

Title: Metal-Based Thiophene Photodynamic Compounds and Their Use**Abstract:**

Compositions of the invention include tunable metal-based thiophene photodynamic compounds useful as therapeutic agents and as in vivo diagnostic agents for treating or preventing diseases that involve hyperproliferating cell etiology including cancer and diseases associated with hyperproliferating cells. The compositions are also useful for treating infectious diseases and for pathogen disinfection.

Issued Patent:**USA:** 9,345,769**Granted:** May 24, 2016**Expiry:** June 22, 2034**USA:** 9,676,806**Granted:** June 13, 2017**Expiry:** April 15, 2033**Patent Application Number:****EPO Europe:** 137,269,023**Filing Date:** April 15, 2013**Status:** Pending**Canada:** 2,883,068**Filing Date:** April 15, 2013**Status:** Pending**Brazil:** BR1120140257027**Filing Date:** April 15, 2013**Status:** Pending**China:** 2013800309752**Filing Date:** April 15, 2013**Status:** Pending**India:** 9613DELNP2014**Filing Date:** April 15, 2013**Status:** Pending**Russia:** 2014145281**Filing Date:** April 15, 2013**Status:** Pending

Title: Metal-Based Coordination Complexes as Photodynamic Compounds and their Use**Abstract:**

This invention relates to metal-based coordination complexes that are useful as therapeutic and diagnostic agents. The invention further relates to photodynamic compounds that can be activated with ultraviolet to infrared (UV-IR) light, particularly near infrared light, that are useful as therapeutic and diagnostic agents. In particular, the invention provides tunable metal-based photodynamic compounds that are coordination complexes derived from organic ligands. The photodynamic compounds can be activated by light to destroy unwanted cells, for example hyperproliferative cells and microbial cells. The photodynamic compounds can also be activated by light to destroy viruses.

Patent Application Number:

USA: 14/777,169	Filing Date: September 15, 2015	Status: Published
China: 2014800276132	Filing Date: March 17, 2014	Status: Published
Brazil: BR1120150235689	Filing Date: March 17, 2014	Status: Pending
Canada: 2,907,356	Filing Date: March 17, 2014	Status: Pending
EPO (Europe): 147232011	Filing Date: March 17, 2014	Status: Published
Russia: 2015144121	Filing Date: March 17, 2014	Status: Published
India: 9668DELNP2015	Filing Date: March 17, 2014	Status: Published

Title: Apparatus and Method for Multiwavelength Photodynamic Therapy

Abstract:

This invention relates to the use of photodynamic compounds as therapeutic agents and as in vivo diagnostic agents. In particular, the invention provides a method and system for applying radiation at selectable wavelengths and powers such that subsurface excitation of photodynamic compounds can be tuned.

Patent Application Number:

USA: 15/307,686	Filing Date: October 28, 2016	Status: Pending
International: PCTUS15000597	Filing Date: April 29, 2015	Status: Published
China: 201580030362	Filing Date: April 29, 2015	Status: Pending
Brazil: BR1120160254686	Filing Date: April 29, 2015	Status: Pending
Canada: 2,947,392	Filing Date: April 29, 2015	Status: Pending
EPO (Europe): 157867516	Filing Date: April 29, 2015	Status: Pending

Russia: 2016146786 **Filing Date:** April 29, 2015 **Status:** Pending

India: 201617040681 **Filing Date:** April 29, 2015 **Status:** Pending

Title: Metal-Glycoprotein Complexes and Their Use as Chemotherapeutic Compounds (US) / Compositions Comprising Transition Metal Chemotherapeutic Agents and Metal-Binding Glycoproteins (International)

Abstract:

This invention relates to metal-based coordination complexes, and more particularly to metal-glycoprotein complexes that are particularly useful as therapeutic and diagnostic agents

Issued Patent:

USA: 9,737,565 **Granted:** August 22, 2017 **Expiry:** January 19, 2036

Patent Application Number:

International: PCTIB2016050253 **Filing Date:** January 19, 2016 **Status:** Published

China: 2016800156464 **Filing Date:** January 19, 2016 **Status:** Pending

Brazil: BR1120170154994 **Filing Date:** January 19, 2016 **Status:** Pending

Canada: 2974329 **Filing Date:** January 19, 2016 **Status:** Allowed

EPO (Europe): 167398528 **Filing Date:** January 19, 2016 **Status:** Pending

Russia: 2017129587 **Filing Date:** January 19, 2016 **Status:** Pending

India: 201717029422 **Filing Date:** January 19, 2016 **Status:** Pending

Title: Metal-Glycoprotein Complexes and Photodynamic Therapy of Immune Privileged Sites with Same

Abstract:

This invention relates to metal-based coordination complexes, and more particularly to photodynamic therapy using metal-glycoprotein complexes as photo dynamic compounds.

Patent Application Number:

USA: 15/291,025 **Filing Date:** October 11, 2016 **Status:** Allowed

Title: Fiber Optic Light Delivery, Monitoring and Apparatus Therefor

Abstract:

Apparatus for illuminating comprises one or more fibers, the one or more fibers including fiber portions meeting at an apex and a bottom location to form a three dimensional cage; a detector attached to each of the fiber portions for receiving light and transmitting light along each of the fiber portions, respectively; and an illumination member situated within the cage. A method for illuminating a hollow member includes the steps of inserting one or more fibers into the hollow member, wherein one or more fibers include fiber portions that meet at a location to form a three-dimensional cage; permitting light to emit from within the three-dimensional cage and towards the fiber portions; receiving light at distinct locations on each of said fibers; and allowing each of the fibers to transmit the light received on each of the fiber portions out of the hollow member.

Patent Application Number:

USA: 15/289,574	Filing Date: October 10, 2016	Status: Published
International: PCTIB2016056061	Filing Date: October 10, 2016	Status: Published
Canada: 3001273	Filing Date: October 10, 2016	Status: Pending

Title: Method and Apparatus for Photoactivating Nuclear Receptors

Abstract:

This invention relates to the modification of biological processes, and more particularly to the use of laser and/or non-coherent (monochromatic and/or polychromatic) light alone or in combination with other stimuli to modify biological processes of living organisms.

A first aspect of the invention is a method of activating a nuclear receptor in an organism, said method comprising irradiating the nuclear receptor with light effective to activate the nuclear receptor to cause a biological effect in the organism; wherein the nuclear receptor is not specific to a retina of the organism.

Patent Application Number:

USA: 62/489,747	Filing Date: April 25, 2017	Status: Abandoned
International: PCTUS1829336	Filing Date: April 25, 2018	Status: Pending

Title: Photodynamic Compounds and Methods for Activating Them Using Ionizing Radiation and/or Other Electromagnetic Radiation for Therapy and/or Diagnostics

Abstract:

This invention relates to the use of electromagnetic radiation to activate metal-based coordination complexes, and more particularly to diagnostic and therapeutic methods comprising the use of ionizing radiation to activate metal-based coordination complexes.

A first aspect of the invention comprises a method for destroying cells and/or microorganisms in an organism, said method comprising: administering to the organism a composition comprising a photodynamic compound containing at least one transition metal; and irradiating the photodynamic compound in the organism with electromagnetic radiation, wherein the electromagnetic radiation comprises ionizing radiation and is effective to activate the photodynamic compound to destroy at least one of the cells and the microorganisms in the organism.

Patent Application Number:

USA: 15/492,801

Filing Date: April 20, 2017

Status: Pending

Title: Vaccine Containing Cancer Cells Inactivated by Photodynamic Treatment with Metal-Based Coordination Complexes, and Immunotherapy Method Using Same

Abstract:

A first aspect of the invention is a method for treating a tumor in a patient, said method comprising administering to the patient an immunogenic composition comprising antigenic material inactivated by treatment with a metal-based coordination complex and electromagnetic radiation, wherein the immunogenic composition is effective to elicit an immune response to the antigenic material in the patient after administration and the metal-based coordination complex is represented by one of the following formulas:

Patent Application Number:

USA: 62/504,580

Filing Date: May 11, 2017

Status: Abandoned

International: PCTUS1832274

Filing Date: May 11, 2018

Status: Pending

Title: Method for Treating Conditions Associated with Hyperproliferating Cells Comprising Combined Administration of a Cannabinoid Receptor Agonist and Radiation Therapy

Abstract:

Disclosed is a method for treating a condition associated with hyperproliferating cells, the method including the steps of administering to a subject having the condition a composition including at least

one cannabinoid receptor agonist, optionally administering to the subject a photodynamic compound, and administering radiation to the subject in whom the at least one cannabinoid receptor agonist is present so as to treat the condition.

Patent Application Number:

USA: 62/648,334

Filing Date: March 26, 2018

Status: Pending

Trademarks:

Canadian Trademarks:

“Theralase®” – TMA 519612

Registered: November 19, 1999

“Healing at the Speed of Light®” – TMA 661393

Registered: March 24, 2006

“Light Speed Healing” - 1,743,316

Status: Allowed

“Pain Relief at the Speed of Light” - 1,788,158

Status: Allowed

“Cellsensing” - Application No. 1,705,272

Status: Allowed

“Rutherrin” - 1,742,822

Status: Allowed

USA Trademarks:

“Theralase®” – 2629654

Registered: October 8, 2002

“Healing at the Speed of Light®” – 3285506

Registered: August 28, 2007

“Light Speed Healing” – 5214634

Registered: May 30, 2017

“Pain Relief at the Speed of Light” - 5292183

Registered: September 19, 2017

“Cellsensing” - Application No. 86/467,154

Registered: July 24, 2018

“Rutherrin” - Application No. 86/536,534

Status: Allowed

“Ruvacure” – Application No. 87/605,704

Status: Allowed

Office of Harmonization in the Markets (“OHIM”):

“Theralase®” – 001150580

Registered: July 17, 2000

“Healing at the Speed of Light®” – 004309126

Registered: March 24, 2006

European Union Trademarks:

“Light Speed Healing®” – 014503874

Registered: December 8, 2015

“Pain Relief at the Speed of Light®” - 015584411

Registered: February 13, 2017

“Cellsensing®” - 013537626

Registered: July 7, 2015

“Rutherrin®” – 1,269,420

Registered: September 1, 2016

Brazil Trademarks:

“Rutherrin” - 909863636

Registered: October 24, 2017

International Bureau (WIPO) Trademarks:

“Rutherrin®” – 1,269,420

Registered: August 17, 2015

China Trademarks:

“Rutherrin” –1,269,420

Registered: January 26, 2017

India Trademarks:

“Rutherrin” - 1,269,420

Registered: January 15, 2018

Russia Trademarks:

“Rutherrin®” – 1,269,420

Registered: September 8, 2016

Specialized Skill and Knowledge

The research, development and commercialization of the Company’s products requires specialized skill and knowledge. Theralase believes that it has the required skill and knowledge to carry out the current stage of research, development and commercialization through its internal and external resources, including its: directors, officers, employees, consultants, external medical, technical and/or regulatory consulting firms. The Company assesses its requirements and as required will recruit and engage qualified personnel and firms, subject to budget limitations.

Competitive Conditions

In its Cool Laser Division, the Company faces numerous competitors that produce competitive products both in Canada, the US and internationally.

The main competition in the US market is by competitors selling Class IV lasers, whose main selling claim is that their enhanced power delivers superior clinical results. Clinical data produced to date has not supported these claims¹, but this has not deterred these organizations from selling numerous products into the US market.

Additional competition comes from Light Emitting Diode (“LED”) based technologies, that produce less than optimal clinical results, according to the clinical literature², due to their non-specific wavelengths and lower optical power.

Additional competition comes from lower power, continuous wave laser-based systems that either lack the correct wavelength or sufficient optical power to stimulate chromophores at tissue depth in the repair of tissue, reduction of inflammation and/or reduction of pain.

¹ See Delia B. Roberts and Roger J. Kruse, "The Effectiveness of Therapeutic Class IV (10 W) Laser Treatment for Epicondylitis" in Brian Wong, ed, *Lasers in Surgery and Medicine*, 45:5 (Wiley Periodicals, 2013) 311 - 317, online: *Wiley Online Library* < <https://doi.org/10.1002/lsm.22140>>.

² See Coldlasers.org, "Comparing LASERS and LEDs for Cold Laser Therapy", online: *ColdLasers.org* < <https://www.coldlasers.org/therapy/laser-vs-led/>>.

Theralase produces a superpulsed, near infrared and visible red multiple laser diode technology that, according to a blinded, randomized clinical study, significantly reduced pain according to the Visual Analog Scale versus placebo in patients presenting with chronic knee pain³.

Employees

As of December 31, 2017, the Company employed approximately 20 full time employees.

In addition, the Company has an extensive network of relationships, and from time-to-time retains the services of consultants who provide the Company with specific expertise in certain niche areas. See *"Summary Description of the Business - Therapeutic Laser Division - Manufacturing, Distribution and Service"*.

GENERAL DEVELOPMENT OF THE BUSINESS

Developments Over the Last Three Fiscal Years

The following events and conditions have affected the general development of the business of the Company over the last three fiscal years.

Anti-Cancer Division:

On December 5, 2016, Theralase executed a Clinical Research Agreement ("**CRA**") with University Health Network ("**UHN**") for the conduct of the Study, with an Amendment to the CRA on April 5, 2017, to address a change to the Clinical Research Organization ("**CRO**") and minor budget adjustments.

On March 1, 2017, the Company entered into a one-year term agreement with UHN to direct research activities related to Theralase's patented, patent pending and / or proprietary PDC technology used primarily for the destruction of cancer cells. UHN evaluated novel Ruthenium ("**Ru**") based PDCs for NMIBC, lung and brain cancers.

Theralase is currently negotiating a new one-year term agreement with UHN to direct research activities related to Theralase's patented, patent pending and/or proprietary PDC technology used primarily for the destruction of cancer. Under such agreement, UHN would plan to evaluate novel Ru based PDCs for lung and brain cancers, in addition to research cancer vaccines.

As previously discussed, safety and tolerability of the PDT procedure in the Study was demonstrated and unanimously confirmed by the MSAB on May 19, 2018 and as a result the MSAB voted to terminate the Study early and commence the design of a multi-center Phase II NMIBC clinical study ("**Study II**") with a primary endpoint of efficacy to be conducted primarily in Canada, the United States and potentially internationally, subject to Health Canada, FDA and international regulatory approval to commence.

Cool Laser Therapy Division:

³ See Lothar Lilge, Nelson Marquina, Roger Dumoulin-White and Arkady Mandel, "Laser therapy applications for osteoarthritis and chronic joint pain - A randomized placebo-controlled clinical trial" (2012), online (pdf): *De Gruyter* < <http://theralase.com/wp-content/uploads/2014/05/Laser-Therapy-Applications-for-Osteoarthritis-and-Chronic-Joint-Pain-Clinical-Trial.pdf>>.

On September 14, 2004 and on January 13, 2017, Health Canada approved Theralase's TLC-1000 therapeutic laser for Canadian distribution through issue of a medical device license, Class 3, License # 65816 and 98358, respectively. On July 11, 2005, the FDA cleared the Theralase TLC-1000 therapeutic laser system under 510k #: K050342.

On December 9, 2015 and on January 13, 2017, Health Canada approved Theralase's TLC-2000 therapeutic laser for Canadian distribution through issue of a medical device license, Class 3, License # 96209 and 98357, respectively. On November 19, 2015, the FDA cleared the Theralase TLC-2000 therapeutic laser system under 510k #: K151816.

Theralase is currently working with Health Canada and the FDA to approve "CellSensing®" technology, which would allow the TLC-2000 therapeutic laser system to automatically adjust energy at the tissue surface to allow a consistent energy at tissue depth regardless of a patient's physical characteristics. See *"Summary Description of the Business - Therapeutic Laser Division - TLC-2000 Therapeutic Laser Product"*.

Financings:

On March 3, 2015, the Company completed a financing by way of a public offering, where 18,181,817 units were issued at a price of \$0.44 per unit for gross proceeds of \$8,000,000. Each unit consisted of one Common Share and one non-transferable Common Share purchase warrant ("**Warrant**"). Each whole Warrant entitles the holder thereof to acquire one Common Share at a price of \$0.54, expiring on March 3, 2020. In connection with the offering, the Company incurred financing costs of \$1,053,871, of which \$997,852 was paid in cash and \$56,019 was paid through issuance of 890,123 broker warrants. Each broker warrant is exercisable into one Common Share at an exercise price of \$0.54 per share for a period of sixty months after the closing of the offering.

On November 10, 2016, the Company completed a financing by way of a public offering, where 14,236,666 units were issued at a price of \$0.30 per unit for gross proceeds of \$4,271,000. Each unit consisted of one Common Share and one non-transferable Warrant. Each whole Warrant entitles the holder thereof to acquire one Common Share at a price of \$0.375, expiring on November 10, 2021. In connection with the offering, the Company incurred financing costs of \$485,452, of which \$466,652 was paid in cash and \$18,800 was paid through issuance of 526,933 broker warrants. Each broker warrant is exercisable into one Common Share at an exercise price of \$0.375 per share for a period of sixty months after the closing of the offering.

On May 14, 2018, the Company completed a financing by way of a non-brokered private placement, where 5,104,000 units were issued at a price of \$0.20 per unit for gross proceeds of \$1,020,800. Each unit consisted of one Common Share and one non-transferable Warrant. Each whole Warrant entitles the holder thereof to acquire one Common Share at a price of \$0.30, expiring on May 14, 2020.

Settlement Agreement:

On February 26, 2018, Theralase announced that it and Roger Dumoulin-White, former Chairman, President and Chief Executive Officer, had entered into a settlement agreement ("**Settlement Agreement**") with Staff of the Ontario Securities Commission. For further details concerning the Settlement Agreement, see the material change report of the Company dated March 2, 2018 and filed

on SEDAR at www.sedar.com, which is incorporated by reference into, and forms an integral part of, this AIF.

Significant Acquisitions

There were no significant acquisitions completed by Theralase during its most recently completed financial year for which disclosure is required under Part 8 of National Instrument 51-102 –*Continuous Disclosure Obligations*.

RISK FACTORS

The Company's operations involve certain risks and uncertainties, including those described below, that are inherent to the Company's industry which could materially adversely affect Theralase's business, financial condition and results of operations and, in turn, the value of its securities. In addition, other risks not presently known to the Company or that Theralase believes to be immaterial may also adversely affect its business, financial condition and results of operations, perhaps materially.

Limited Operating History

The Company is still in the research, development and commercialization stage of its businesses and therefore will be subject to the risks associated with early stage companies, including uncertainty of the success and acceptance of its products, uncertainty of revenues, markets and profitability and the continuing need to raise additional capital. The Company's business prospects must be considered in light of the risks, expenses and difficulties frequently encountered by companies in this stage of development. Such risks include the evolving and unpredictable nature of the Company's business, the Company's ability to anticipate and adapt to a developing market, acceptance by consumers of the Company's products, the ability to identify, attract and retain qualified personnel and the ability to generate sufficient revenue or raise sufficient capital to carry out its business plans. There can be no assurance that the Company will be successful in adequately mitigating these risks.

Working Capital and Capital Resources

The Company has not been able to consistently generate sufficient profits from its revenue to provide the financial resources necessary to continue to have sufficient working capital for the development of its products and marketing activities. There is no assurance that future revenues will be sufficient to generate the required funds to continue product development, business development or marketing activities or that additional funds required for such working capital will be available from financings.

In order to achieve its long-term development and commercialization strategy for the Company's range of therapeutic laser systems and PDC anti-cancer technology, the Company may need to raise additional capital through the issuance of shares, collaboration agreements or strategic partnerships that would allow the Company to finance its activities. There is no assurance that additional funds will be available as required or that they may be available on acceptable terms and conditions. Additional financing may also result in dilution of shareholder value.

Key Personnel

The Company's success is dependent upon its ability to attract and retain a highly qualified work force, and to establish and maintain close relationships with research centers. Competition is intense and the Company's success will depend, to a great extent, on its senior and executive managers, scientific personnel and academic partners. The loss of one or more of its key employees or the inability to attract and retain highly skilled personnel could have a material adverse affect on the Company's development of its products, operations or business prospects.

Protection of Intellectual Property

The Company's success will depend in part on its ability to obtain patents, protect its trade secrets and operate without infringing the exclusive rights of other parties. There is no guarantee that any patent that will be granted to the Company will bring any competitive advantage to the Company, that its patent protection will not be contested by third parties, or that the patents of competitors will not be detrimental to the Company's commercial activities. It cannot be assured that competitors will not independently develop products similar to the Company's products, that they will not imitate the Company's products or that they will not circumvent or invalidate patents granted to the Company.

Although the Company does not believe that its products infringe the proprietary rights of any third parties, there can be no assurance that infringement or invalidity claims (or claims for indemnification resulting from infringement claims) will not be asserted or prosecuted against the Company or that any such assertions or prosecutions, valid or otherwise, will not materially adversely affect the Company's business, financial condition or results of operations. Irrespective of the validity of the successful assertion of such claims, the Company could incur significant costs and diversion of resources with respect to the defense thereof, which could have a material adverse affect on the Company. The Company's performance and ability to develop markets and compete effectively are dependent to a significant degree on its proprietary and patented technology. The Company relies on its patents and trade secrets, as well as confidentiality agreements and technical measures, to establish and protect its proprietary right. While the Company will endeavor to protect its intellectual property, there can be no assurance that the steps taken will prevent misappropriation or that agreements entered into for that purpose will be enforceable. The laws of certain other countries may afford the Company little or no effective protection of its intellectual property.

Competition

Many of the Company's current and potential competitors have longer operating histories, larger customer bases, greater name and brand recognition and significantly greater financial, sales, marketing, technical and other resources than the Company. These competitors have research and development capabilities that may allow them to develop new or improved products that may compete with the Company's products. New technologies and the expansion of existing technologies may also increase competitive pressures on the Company. Increased competition may result in reduced operating margins as well as loss of market share and could result in decreased usage in the Company's products and may have a material adverse affect on the Company.

Implementation Delays

Many of the Company's products will be in a testing or preliminary stage and there may be delays or other problems in the introduction of the Company's products. The Company cannot predict when customers that are in a testing or preliminary use phase of the Company's products will adopt a broader use of the products. The market for the Company's products is relatively new and continues to evolve. The Company's products will involve changes in the manner in which businesses have traditionally used such products. In some cases, the Company's customers will have little experience with products offered by the Company. The Company will have to spend considerable resources educating potential customers about the value of the Company's products. It is difficult to assess, or predict with any assurance, the present and future size of the potential market for the Company's products or its growth rate, if any. The Company cannot predict whether or not its products will achieve market acceptance.

Strategic Alliances

The Company's ability to successfully complete the research and development of its products and its growth and marketing strategies are based, in significant part, in the strategic alliances it has in place and the licenses and agreements securing those strategic alliances. The Company's success will depend upon the ability to seek out and establish new strategic alliances and working relationships. There can be no assurance that existing strategic alliances and working relationships will not be terminated or adversely modified in the future, nor can there be any assurance that new relationships, if any, will afford the Company the same benefits as those currently in place.

Trade Secret Protection

Because the Company relies on third parties to develop its products, the Company must share trade secrets with them. The Company seeks to protect its proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, collaborative research agreements, consulting agreements or other similar agreements with its collaborators, advisors, employees and consultants prior to beginning research or disclosing proprietary information. These agreements typically restrict the ability of its collaborators, advisors, employees or consultants to publish data potentially relating to its trade secrets. The Company's academic collaborators typically have rights to publish data, provided that the Company is notified in advance and may delay publication for a specified time in order to secure its intellectual property rights arising from the collaboration. In other cases, publication rights are controlled exclusively by the Company, although in some cases the Company may share these rights with other parties. The Company also conducts joint research and development programs, which may require the Company to share trade secrets under the terms of research and development collaboration or similar agreements. Despite the Company's efforts to protect its trade secrets, the Company's competitors may discover the Company's trade secrets, either through breach of these agreements, independent development or publication of information including the Company's trade secrets in cases where the Company does not have proprietary or otherwise protected rights at the time of publication. A competitor's discovery of the Company's trade secrets may impair the Company's competitive position and could have a material adverse effect on the Company's business and financial condition.

Product Deficiencies

Given that the Company's products are either fairly new, or are in stages of development, there may be difficulties in product design, performance or reliability which could result in lost revenue, delays in customer acceptance of the Company's products and legal claims against the Company, which would be detrimental, perhaps materially to the Company's market reputation or ability to generate further sales. Serious defects are frequently found during the period immediately following the introduction of new products or enhancements to existing products and undetected errors or performance problems may be discovered in the future. Product defects may expose the Company to liability claims, for which the Company may not have sufficient liability insurance.

Dependence on Third Party Suppliers

The Company has established relationships with certain third-party suppliers upon whom, it relies to provide key materials and components for completion of its products. In the event of the inability of these third parties to supply such materials and components in a timely manner or to supply materials and components that continue to meet the Company's quality, quantity or cost requirements, the Company would be required to purchase these materials and components from other suppliers. There is no assurance that other suppliers can be found in such circumstances who can supply the materials and components in a timely manner or that meet the Company's quality, quantity or cost requirements.

Volatility of Share Price

The market price of the Common Shares is subject to volatility. General market conditions as well as differences between the Company's financial, scientific or clinical results, and the expectations of shareholders, investors and/or securities analysts can have a significant impact on the trading price of the Common Shares.

Regulatory Risk

The Company is directly and indirectly engaged in the design, manufacture and distribution of medical laser equipment, as well as the research and development of light activated PDCs, all of which are subject to regulatory oversights, audits and controls by various national regulatory agencies and authoritative quality standards bodies, which all possess strict quality certification procedures. Successful execution of the Company's strategy is contingent, in part, upon compliance with regulatory requirements, including those under the Settlement Agreement, and obtaining all regulatory approvals, where necessary. The Company incurs ongoing costs and obligations related to regulatory compliance. Failure to comply with regulations may result in additional costs for corrective measures, penalties or restrictions on the Company's operations. In addition, changes in regulations, more vigorous enforcement thereof or other unanticipated events could require extensive changes to the Company's operations, increased compliance costs or give rise to material liabilities, which could have a material adverse effect on the business, financial condition and/or operating results of the Company.

Early Stage of Product Development

Given the early stage of the Company's product development, the Company can make no assurance that its research and development programs will result in regulatory approval or commercially viable

products. To achieve profitable operations, the Company alone or with others, must successfully develop, gain regulatory approval and market its future products. To obtain regulatory approvals for its product candidates being developed and to achieve commercial success, clinical studies must demonstrate that the product candidates are safe and tolerable for human use and that they demonstrate efficacy equal to or greater than standard of care.

Many product candidates never reach the stage of clinical testing and even then those that do have only a small chance of successfully completing clinical development and gaining regulatory approval. Product candidates may fail for a number of reasons, including, but not limited to: being unsafe for human use or due to the failure to provide therapeutic benefits equal to or better than the standard of treatment at the time of testing. Unsatisfactory results obtained from a particular clinical study relating to a research and development program may cause the Company or its collaborators to abandon commitments to that program. Positive results of early preclinical research may not be indicative of the results that may be obtained in later stages of preclinical or clinical research. Similarly, positive results from early-stage clinical studies may not be indicative of favorable outcomes in later-stage clinical studies. The Company can make no assurance that any future preclinical or clinical studies, if undertaken, will yield favorable results.

Reliance on Third Parties

The Company relies and will continue to rely on third parties to conduct a significant portion of its preclinical and clinical development activities. Preclinical activities include: in-vitro and/or in-vivo studies providing access to specific disease models, pharmacology studies, toxicology studies or assay development. Clinical development activities include: clinical study design, regulatory submissions, clinical patient recruitment, clinical study monitoring, clinical data management and analysis, safety monitoring and project management. If there is any dispute or disruption in the Company's relationship with third parties, or if they are unable to provide quality services in a timely manner or at a feasible cost, the Company's active development programs may face delays. Further, if any of these third parties fails to perform as the Company expects or if their work fails to meet regulatory requirements, the Company's testing could be delayed, cancelled or rendered ineffective.

Clinical Study and Study Risk

Before obtaining marketing approval from regulatory authorities for the sale of the Company's product candidates, the Company must conduct preclinical studies in animals and extensive clinical studies in humans to demonstrate the safety, tolerability, pharmacokinetics and/or efficacy of the product candidates. Clinical testing is expensive and difficult to design and implement, can take many years to complete and has uncertain outcomes. The outcome of preclinical studies and early clinical studies may not predict the success of later clinical studies, and interim results of a clinical study do not necessarily predict final results. A number of companies in the pharmaceutical or biotechnology industries have suffered significant setbacks in advanced clinical studies due to lack of efficacy or unacceptable safety profiles, notwithstanding promising results in earlier studies. The Company does not know whether the clinical studies it may conduct will demonstrate adequate efficacy and safety to result in regulatory approval to market any of the Company's product candidates in any jurisdiction. A product candidate may fail for safety, tolerability, pharmacokinetics and/or efficacy reasons at any stage of the testing process. A major risk the Company faces is the possibility that none of the Company's product candidates under development will successfully gain market approval from Health Canada, the FDA or other regulatory authorities, resulting in the Company being unable to derive any commercial revenue

from them after investing significant amounts of capital in multiple stages of preclinical and clinical studies.

From time to time, preclinical and/or clinical studies on various aspects of biopharmaceutical products are conducted by academic researchers, competitors or others. The results of these studies, when published, may have a significant effect on the market for the biopharmaceutical product that is the subject of the study. The publication of negative results of clinical studies or adverse safety events related to the Company's product candidates, or the therapeutic areas in which the Company's product candidates compete, could adversely affect the Company's share price and the Company's ability to finance future development of its product candidates; hence, the Company's business and financial results could be materially and adversely affected.

Clinical Study Timing Delays

The Company cannot predict whether any clinical studies will begin as planned, will need to be restructured, or will be completed on schedule, or at all. The Company's product development costs may significantly increase if the Company experiences delays in clinical studies. Significant clinical study delays could shorten any periods during which the Company may have the exclusive right to commercialize its product candidates or allow the Company's competitors to bring products to market before the Company, which would impair the Company's ability to successfully commercialize its product candidates and may harm the Company's financial condition, results of operations and / or prospects.

The commencement and completion of clinical studies for the Company's products may be delayed for a number of reasons, including delays related, but not limited, to:

- failure by regulatory authorities to grant permission to proceed or placing the clinical study on clinical hold;
- patients failing to enroll or remain in the Company's studies at the rate the Company expects;
- suspension or termination of clinical studies by regulators for many reasons, including concerns about patient safety, tolerability, pharmacokinetics and/or efficacy
- any changes to the Company's manufacturing process that may be necessary or desired;
- delays or failure to obtain clinical supply from contract manufacturers of the Company's products necessary to conduct clinical studies;
- product candidates demonstrating a lack of safety, tolerability, pharmacokinetics and/or efficacy during clinical studies;
- patients choosing an alternative treatment for the indications for which the Company is developing any of its product candidates or participating in competing clinical studies;
- patients failing to complete clinical studies due to dissatisfaction with the treatment, side effects and/or other reasons;
- reports of clinical testing on similar technologies or products raising safety, tolerability, pharmacokinetics and/or efficacy concerns;
- competing clinical studies and scheduling conflicts with participating clinicians;
- clinical investigators not performing the Company's clinical studies on their anticipated schedule, dropping out of a study or employing methods not consistent with the clinical

- study protocol, regulatory requirements or other third parties not performing data collection or analysis in a timely or accurate manner;
- failure of the Company's CROs, to satisfy their contractual duties or meet expected deadlines;
- inspections of clinical study sites by regulatory authorities or Institutional Review Boards ("IRBs") or ethics committees finding regulatory violations that require the Company to undertake corrective action, resulting in suspension or termination of one or more sites or the imposition of a clinical hold on the entire study;
- one or more CROs, IRBs or ethics committees rejecting, suspending or terminating the clinical study at an investigational site, precluding enrollment of additional subjects, or withdrawing its approval of the study; or
- failure to reach agreement on acceptable terms with prospective clinical study sites.

The Company's product development costs may increase if the Company experiences delays in testing or approval or if the Company needs to perform more or larger clinical studies than planned. Additionally, changes in regulatory requirements and policies may occur, and the Company may need to amend study protocols to reflect these changes. Amendments may require the Company to resubmit its study protocols to CROs, regulatory authorities, IRBs or ethics committees for re-examination, which may impact the cost, timing or successful completion of that study. Delays or increased product development costs may have a material adverse effect on the Company's business, financial condition or prospects.

Patient Enrollment

As the Company's product candidates advance from preclinical studies to clinical studies, and then through progressively larger and more complex clinical studies, the Company may need to enroll an increasing number of patients that meet the Company's eligibility criteria. There is significant competition for recruiting cancer patients in clinical studies and the Company may be unable to enroll the patients it needs to complete clinical studies on a timely basis or at all. The factors that affect the Company's ability to enroll patients are largely uncontrollable and include, but are not limited to, the following:

- size and nature of the patient population;
- eligibility, inclusion and exclusion criteria for the study;
- design of the clinical study protocol;
- competition with other companies for clinical sites or patients;
- the perceived risks and benefits of the product candidate under study;
- the patient referral practices of physicians; or
- the number, availability, location or accessibility of clinical study sites

Failure to Achieve Milestones

From time to time, the Company may announce the timing of certain events it expects to occur, such as the anticipated timing of results from the Company's clinical studies or product sales. These statements are forward-looking and are based on the best estimates of management at the time relating to the occurrence of such events; however, the actual timing of such events may differ from what has been publicly disclosed. The timing of events such as initiation or completion of a clinical study, filing of an

application to obtain regulatory approval or announcement of additional clinical studies for a product candidate or adoption / sales of the Company's products may ultimately vary from what is publicly disclosed. These variations in timing may occur as a result of different events, including the nature of the results obtained during a clinical study or during a research phase or any other event having the effect of delaying the publicly announced timeline. The Company undertakes no obligation to update or revise any FLS; whether as a result of new information, future events or otherwise, except as otherwise required by law. Any variation in the timing of previously announced milestones could have a material adverse effect on the Company's business plan, financial condition or operating results and the trading price of the Common Shares.

Material Weakness in Internal Control Over Financial Reporting

In connection with the audits of Theralase's consolidated financial statements for the years ended December 31, 2017 and 2016, the Company's independent registered public accountants identified a material weakness in its internal control over financial reporting. A "material weakness" is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of its annual or interim financial statements will not be prevented or detected on a timely basis. The material weakness relates to not having a full segregation of duties within members of the Company's accounting staff dedicated to financial reporting functions so that all journal entries and account reconciliations are reviewed by someone other than the preparer, heightening the risk of error or fraud, and a proper system for updating inventory values as of the end of each reporting period. If the Company is unable to remediate the material weakness, or other control deficiencies are identified, it may not be able to report its financial results accurately, prevent fraud or file its periodic reports as a public company in a timely manner.

Currency Risk

The Company's primary risks are exposure to foreign currency exchange risk. These risks arise from the Company's holdings of US or Canadian dollar denominated cash, accounts receivable or accounts payable. Changes arising from these risks could impact the Company's reported foreign exchange gains or losses. The Company limits its exposure to foreign currency risk by holding US denominated cash in amounts of up to 100% of forecasted twelve month US dollar expenditures; thereby, creating a natural hedge against foreign currency fluctuations and limiting foreign currency risk to translation of US dollar balances at the balance sheet date.

Credit Risk

Credit risk is the risk of financial loss to the Company, if a customer or counter-party to a financial instrument fails to meet its contractual obligations and arises principally from the Company's accounts receivable. The amounts reported in the balance sheet are net of allowances for bad debts, estimated by the Company's management based on prior experience and their assessment of the current economic environment. The Company reviews its trade receivable accounts regularly and reduces amounts to their expected realizable values by adjusting the allowance for doubtful accounts as soon as the account is determined not to be fully collectible. The Company has adopted credit policies in an effort to minimize these risks.

Product Liability

The Company has obtained product liability insurance coverage in the aggregate of \$5,000,000, with \$2,000,000 per occurrence. This coverage is limited and a product liability claim could potentially be greater than these coverages. The Company's profitability would be adversely affected by any successful product liability claim in excess of its insurance coverage.

Patent-Related Rights of the U.S. Government in PDT Technology

Some of Theralase's licensed patented PDT technology was developed with U.S. federal government funding. When new technologies are developed with U.S. government funding, the government obtains certain rights in any resulting patents, including a nonexclusive license authorizing the government to use the invention for noncommercial purposes. These rights may permit the government to disclose Theralase's confidential information to third parties and to exercise "march-in" rights to use or allow third parties to use Theralase's patented technology. The government can exercise its march-in rights if it determines that action is necessary because Theralase fails to achieve practical application of the U.S. government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations or to give preference to U.S. industry. In addition, U.S. government-funded inventions must be reported to the government and U.S. government funding must be disclosed in any resulting patent applications. Furthermore, Theralase's rights in such inventions are subject to government license rights and certain restrictions on manufacturing products outside the United States.

DIVIDENDS AND DISTRIBUTIONS

The Company has not previously paid any dividends on its Common Shares. The Company is not restricted from paying dividends other than pursuant to certain solvency tests prescribed under the CBCA; however, the Company does not intend to pay dividends on any of its securities in the foreseeable future.

DESCRIPTION OF CAPITAL STRUCTURE

The Company's authorized share capital consists of an unlimited number of Common Shares, of which 126,481,526 Common Shares were issued and outstanding as of December 31, 2017.

The holders of Common Shares are entitled to receive notice of and to attend all annual and special meetings of Theralase's shareholders and to one vote in respect of each Common Share held at the record date for each such meeting. The holders of Common Shares are entitled, at the discretion of the Board of Directors of the Company ("**Board**"), to receive out of any or all of Theralase's profits or surplus, properly available for the payment of dividends, any dividend declared by the Board and payable by Theralase on the Common Shares. The holders of the Common Shares will participate pro rata in any distribution of the assets of Theralase upon liquidation, dissolution or winding up or other distribution of the assets of Theralase. Such participation will be subject to the rights, privileges, restrictions and conditions attached to any of Theralase's securities issued and outstanding at such time ranking in priority to the Common Shares upon the liquidation, dissolution or winding up of Theralase.

MARKET FOR SECURITIES

Market Listing

The Common Shares are listed and posted for trading on the TSXV under the symbol “TLT” and on the Over the Counter (“OTCQX”) Open Market under the symbol “TLTFF”.

Trading Price and Volume

The following table sets forth the highest and lowest trading price ranges (high/low), closing price and the aggregate monthly volume of trading of the Common Shares on the TSXV for the twelve-month period ended December 31, 2017.

Month / Year	High Price (\$)	Low Price (\$)	Close (\$)	Volume
January 2017	0.375	0.25	0.325	5,644,780
February 2017	0.33	0.265	0.28	2,901,540
March 2017	0.325	0.255	0.325	3,343,720
April 2017	0.52	0.31	0.48	16,205,910
May 2017	0.54	0.34	0.345	15,139,280
June 2017	0.44	0.325	0.385	5,235,900
July 2017	0.49	0.34	0.49	5,573,610
August 2017	0.55	0.44	0.455	10,622,850
September 2017	0.51	0.455	0.475	4,055,250
October 2017	0.48	0.415	0.45	2,823,900
November 2017	0.45	0.185	0.255	26,912,240
December 2017	0.285	0.235	0.245	5,512,920

Prior Sales

The following table summarizes details of each class of securities of the Company that is outstanding, but not listed or quoted on a marketplace issued by the Company during the year ended December 31, 2017:

Date of Issuance	Price per Security (\$)	Number of Securities Issued
April 18, 2017 ⁽¹⁾	0.50	3,240,000

Note:

⁽¹⁾ Stock options issued pursuant to the Company’s 2004 rolling stock option plan

ESCROWED SECURITIES AND SECURITIES SUBJECT TO CONTRACTUAL RESTRICTION ON TRANSFER

Except as disclosed below, there are no securities of the Company that are held, to the Company’s knowledge, in escrow, or that are subject to a contractual restriction on transfer.

The following securities are subject to contractual restrictions on disposal pursuant to the Settlement Agreement:

Designation of Class	Number of Securities Subject to Contractual Restriction on Transfer	Percentage of Class
Common Shares	7,492,549 ⁽¹⁾	5.7%

Note:

⁽¹⁾ Such Common Shares are subject to restrictions on disposal until the day following the date the first management's discussion and analysis is required to be filed by the Company following the completion of 12 months of the corporate governance consultant's engagement under the Settlement Agreement. See "General Development of the Business – Development Over the Last Three Fiscal Years – Settlement Agreement".

DIRECTORS AND OFFICERS

Directors

The name, province and country of residence of each director of the Company as of the date of this AIF, as well as their respective position(s) and office(s) with the Company, their respective principal occupations during the five preceding years, and the period during which each director has served as a director are provided in the table below:

Name and Residency ⁽⁹⁾	Position and Office(s) with the Company	Director Since	Principal Occupation (Past 5 years)
Randy Bruder ^(1, 2, 3) Ontario, Canada	Independent Director	2008	Owner /Operator of "The Grainery", a wholesale and retail food processing business
Guy Anderson ^(1, 2, 3, 4, 5, 7) Ontario, Canada	Independent Director and Chairman of the Board	2013	Wealth Management and Personal Finance Advisor at Aligned Capital Partners, an investment broker
Matthew Perraton ^(1, 2, 3, 6) Ontario, Canada	Independent Director	2013	Financial Planner at Aligned Capital Partners, an investment broker
Arkady Mandel ⁽⁸⁾ Ontario, Canada	Interim Chief Executive Officer and Chief Scientific Officer	2018	Interim Chief Executive Officer (since February 2018) and Chief Scientific Officer of the Company

Notes:

- ⁽¹⁾ Member of the Audit Committee
- ⁽²⁾ Member of the Governance and Compensation Committee
- ⁽³⁾ Member of the Corporate Disclosure Committee
- ⁽⁴⁾ Chairman of the Board
- ⁽⁵⁾ Chairman of the Audit Committee
- ⁽⁶⁾ Chairman of the Governance and Compensation Committee
- ⁽⁷⁾ Chairman of the Corporate Disclosure Committee
- ⁽⁸⁾ Arkady Mandel was appointed to the Board on June 22, 2018.

Each of the directors has served continuously as a director since the date he was first elected or appointed.

The present term of each director will expire immediately prior to the election of directors at the next annual meeting of shareholders, when the director resigns or a successor is duly elected or appointed.

Medical and Scientific Advisory Board**Dr. Michael Jewett:**

Michael Jewett MD, FRCSC, FACS, is a Professor of Surgery (Urology) at the University of Toronto, Chairman of Theralase's MSAB, and a board certified uro-oncologist at Princess Margaret Cancer Centre, UHN. He graduated from Queen's University, Faculty of Medicine, and completed his urology training at the University of Toronto. He became a Fellow of the Royal College of Physicians and Surgeons of Canada in 1974 and subsequently spent two years as a Fellow at Memorial Sloan Kettering Cancer Center in New York City before returning to the Faculty. His clinical practice is in urologic oncology with research interests in testicular cancer and superficial bladder cancer.

Dr. Lothar Lilge:

Lothar Lilge, Ph.D., is a Professor in the Department of Medical Biophysics, University of Toronto and Senior Scientist at the Ontario Cancer Institute, Princess Margaret Cancer Centre, UHN. Dr. Lilge's research is focused on PDT, optical diagnostics, destruction of cancer and bacteria by light activated PDCs and the use of light as a microscopic tool for biomedical research. He has published over 30 original scientific papers and is an editor of peer reviewed scientific journals. Dr. Lilge is a much sought after speaker at many international medical and scientific conferences.

Dr. Ashish Kamat:

Ashish Kamat MD, MBBS, is a Professor of Urologic Oncology (Surgery) and Wayne B. Duddleston Professor of Cancer Research, University of Texas, MD Anderson Cancer Center. Dr. Kamat is an internationally recognized expert in urologic oncology and an authority in the management of urologic cancers. Dr. Kamat's expertise includes bladder cancer, organ sparing and minimally invasive techniques. Dr. Kamat maintains an active research portfolio with a focus on efforts to develop novel therapies and identifying predictors of response to therapy (i.e.: intravesical immunotherapy), as a first step towards personalized cancer therapeutics. He has initiated, led and been active in several large studies including multinational trials in bladder cancer, with findings published in high impact journals.

Dr. Michael O'Donnell:

Michael O'Donnell MD, is a Professor of Urology, University of Iowa, Iowa City, Iowa. Dr. O'Donnell has a long history of focusing on bladder immunology and bladder cancer immunotherapy, particularly the

anti-cancer mechanisms of bacillus Calmette-Guerin (“**BCG**”) and its enhancement with combination therapies. Dr. O’Donnell recently headed a national trial of bladder cancer treatment utilizing BCG plus interferon (a natural protein which induces healthy cells to combat disease) comprised of over 1,000 patients and holds several U.S. patents for his work.

Dr. Brian Wilson:

Brian Wilson, Ph.D. is a Senior Scientist and Head of the Applied Biophotonics group at Princess Margaret Cancer Centre, UHN and a Professor in the Department of Medical Biophysics at the University of Toronto. Dr. Wilson’s research focus of the Applied Biophotonics group is in the development and application of new therapeutic and diagnostic techniques based on the use of lasers and other optical technologies.

Officers

Officers hold their offices until the meeting of the Board following the annual meeting of the shareholders of the Company following their nomination or until their successors are appointed.

The name, province and country of residence of each executive officer of the Company as of the date of this AIF, their respective position(s) and office(s) held with the Company, and their respective occupations during the five preceding years is provided in the following table:

Names and Residency	Position(s) and Office(s) with the Company	Principal Occupation (Past 5 years)
Arkady Mandel Ontario, Canada	Director, Interim Chief Executive Officer and Chief Scientific Officer	Interim Chief Executive Officer (since February 2018) and Chief Scientific Officer of the Company
Kristina Hachey Ontario, Canada	Chief Financial Officer	Chief Financial Officer of the Company

Shareholdings of Directors and Executive Officers

As of the date of this AIF, the directors and executive officers of the Company collectively beneficially own, or control or direct, directly or indirectly, 3,104,870 Common Shares, representing approximately 2.4% of the issued and outstanding Common Shares on a non-diluted basis.

Name	Number/Percentage of Outstanding Common Shares Owned, or Controlled or Directed (Non-Diluted)
Arkady Mandel	0 0.0%
Kristina Hachey	1,313,410 1.0%
Randy Bruder	1,650,460 1.3%
Matthew Perraton	21,000 0.0%
Guy Anderson	120,000 0.1%
Total	3,104,870 2.4%

Cease Trade Orders, Bankruptcies, Penalties or Sanctions

To the knowledge of the Company, no current director or executive officer of the Company is, as at the date of this AIF, or was, within ten years before the date of this AIF, a director, Chief Executive Officer or Chief Financial Officer of any company (including Theralase) that:

- (a) was the subject of a cease trade order, an order similar to a cease trade order or an order that denied the relevant company access to any exemptions under Canadian securities legislation, that was in effect for a period of more than thirty (30) consecutive days, ("**Order**"), that was issued while the director or executive officer was acting in the capacity as director, Chief Executive Officer or Chief Financial Officer; or
- (b) was subject to an Order that was issued after the director or executive officer ceased to be a director, Chief Executive Officer or Chief Financial Officer and which resulted from an event that occurred while that person was acting in the capacity as director, Chief Executive Officer or Chief Financial Officer.

To the knowledge of the Company, no current director or executive officer of the Company, or a shareholder holding a sufficient number of securities of the Company to affect materially the control of the Company:

- (a) is, as at the date of this AIF, or has been within the ten years before the date of this AIF, a director or executive officer of any company (including Theralase) that, while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets; or
- (b) has, within the ten years before the date of this AIF, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or shareholder.

To the knowledge of the Company, no current director or executive officer of the Company, or a shareholder holding a sufficient number of securities of the Company to affect materially the control of the Company, has been subject to:

- (a) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority; or
- (b) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

Conflicts of Interest

Certain of the Company's directors and officers serve or may agree to serve as directors or officers of other companies or have significant shareholdings in other companies and, to the extent that such other companies may participate in ventures in which the Company may participate, the directors and officers

of the Company may have a conflict of interest in negotiating or concluding terms respecting the extent of such participation. In the event that such a conflict of interest arises at a meeting of the Company's directors, a director who has such a conflict will abstain from voting for or against the approval of such participation or such terms. To the knowledge of the Company, there are no existing or potential material conflicts of interest between Theralase or any of its subsidiaries or any director or officer of Theralase or of any of its subsidiaries.

THE AUDIT COMMITTEE

The Board has established an Audit Committee. In addition to carrying out its statutory legal responsibilities (including review of the Company's annual and interim financial statements prior to their presentation to the Board), the Audit Committee reviews all financial reporting, including any requisite Management Discussion and Analysis ("**MD&A**"). The Audit Committee consults with the Company's independent external auditors and with members of management to assist it in the effective discharge of its duties. The Audit Committee also recommends to the Board the auditor to be appointed as the Company's external auditor at the annual meeting of shareholders of the Company and the terms of their remuneration.

The Committee is charged with reviewing and monitoring the actions taken by management with respect to any significant recommendations made by the Company's independent external auditors.

The Audit Committee's Charter

The Audit Committee operates under the Audit Committee Charter which sets out its mandate and responsibilities. A copy of the Audit Committee Charter is appended as Appendix A.

Composition of the Audit Committee

The Audit Committee is composed of three members Mr. Randy Bruder, Mr. Guy Anderson and Mr. Matthew Perraton, each of whom is independent and financially literate within the meaning of National Instrument 52-110 ("**NI 52-110**"). The Audit Committee is chaired by Mr. Guy Anderson.

Relevant Education and Experience

All of the members of the Audit Committee are "financially literate" and "independent" within the meaning of Multilateral Instrument 52-110.

Guy Anderson - Chairman of the Audit Committee, Independent Director

Mr. Anderson brings over 20 years of financial experience to Theralase, most recently as a Wealth Management and Personal Finance Advisor with Aligned Capital Partners. Prior to his current position, Mr. Anderson held progressively higher positions with the Investment Planning Counsel, Franklin Templeton Investments Canada, T.E. Financial and Bank of Nova Scotia. Mr. Anderson is financially literate by virtue of his training and experience as a Personal Finance Advisor.

Bachelor of Arts: Political Science and Economics (Grad 1992): University of Western Ontario

Masters of Business Administration (2007): Laurier School of Business and Economics

Certified Financial Planner: Financial Planner Standards Council (1998)

Financial Management Advisor: Canadian Securities Institute (2002)
Wealth Management Essentials (WME): Conduct and Practices Handbook: Canadian Securities Institute (2017)
Canadian Securities Course: Canadian Securities Institute (Grad 1996)
Wealth Management Course: Canadian Securities Institute (2002)
Canadian Investment Manager (CIM): Canadian Securities Institute (1999)
Fellow of the Canadian Securities Institute (FCSI) (2002)
Graduate Diploma Investment Management (2005): Concordia University, Toronto/Montreal

Matthew Perraton - Independent Director

Mr. Perraton brings over 19 years of financial experience to Theralase, most recently as a Financial Planner for Aligned Capital Partners. Prior to his current position, Mr. Perraton held progressively higher positions with Royal Bank, BMO Nesbitt Burns and Bank of Nova Scotia. Mr. Perraton is financially literate by virtue of his training and experience as a Personal Financial Planner.

2011: Personal Financial Planner Designation (PFP)
2009: Financial Management Advisor Designation (FMA)
2009: Fellow of the Canadian Securities Institute Designation (FCSI)
2007: Investment Advisor Registered with the IDA/IROC
2009: CE Ethics Course, Retail
2009: Wealth Management Techniques
2008: Canadian Insurance Course
2008: WME Financial Planner Supplement Course
2007: Wealth Management Essentials Course
2006: Conduct & Practices Handbook
2004: Canadian Securities Course

Randy Bruder – Independent Director

Mr. Bruder is an active independent businessman with over 34 years of experience of running his own multi-million dollar business. Mr. Bruder is financially literate by virtue of his ownership and management of his own business.

Audit Committee Oversight

At no time since the commencement of the Company's most recently completed financial year has a recommendation of the Audit Committee to nominate or compensate an external auditor not been accepted by the Board.

Pre-Approved Policies

The Board and the Audit Committee have adopted certain policies and procedures with respect to services rendered by external auditors.

Specific services may be rendered by the external auditors of the Company, which are not incompatible, as to their nature, with the maintenance of their professional independence. Certain of these services reflect the statutory role of the external auditors and are grouped under "Audit Services" below.

Audit Services

- Examination of the Company's annual consolidated financial statements;
- Review of the Company's quarterly consolidated financial statements, as required;
- Review of the Company's MD&A, Management Information Circular and other annual filing documents

External Auditors Service Fees

The following are the aggregate fees billed by the Company's external auditors in each of the last two fiscal years by category of services provided to the Company by said auditors.

Type of Services	Fiscal Year 2017	Fiscal Year 2016
Audit Fees ⁽¹⁾	\$104,789	\$79,200
Audit Related Fees ⁽²⁾	0	0
Tax Fees ⁽³⁾	0	0
All Other Fees ⁽⁴⁾	1,207	0
Total	\$105,996	\$79,200

Notes:

⁽¹⁾ For Professional Services rendered by the Company's external auditors for the audit and review of the Company's financial statements.

⁽²⁾ Refers to aggregate fees billed for assurance and related services by the Corporation's external auditors that are reasonably related to the performance of the audit or review of the Corporation's financial statements and not reported under Audit Fees, including the review of interim filings and travel related expenses for the annual audit.

⁽³⁾ Includes fees for professional services rendered by the Company's external auditors for tax compliance, tax advice and tax planning; assistance with the preparation of, and review of, tax filings; tax advice relating to potential asset and business acquisitions/combinations; and other tax planning, compliance, and transaction services.

⁽⁴⁾ Includes all fees billed by the Company's external auditors for services not covered in the other three categories, including fees for reviewing going concern disclosure.

Exemption

The Company is relying upon the exemption in Section 6.1 of NI 52-110 with respect to the reporting obligations of "venture issuers".

PROMOTERS

No person or company has been, within the two most recently completed financial years, or during the current financial year, of the Company, a promoter of Theralase or any of its subsidiaries.

LEGAL PROCEEDINGS AND REGULATORY ACTIONS

Legal Proceedings

Management of the Company is not aware of any legal proceeding that the Company is or was a party to, or that any of its property is or was the subject of, during the Company's most recently completed financial year. In addition, management of the Company is not aware of any such legal proceeding to be contemplated.

Regulatory Actions

Other than the Settlement Agreement, there were no: (a) penalties or sanctions imposed against the Company by a court relating to securities legislation or by a securities regulatory authority during the financial year ended December 31, 2017; (b) other penalties or sanctions imposed by a court or regulatory body against the Company that would likely be considered important to a reasonable investor in making an investment decision; and (c) settlement agreements the Company entered into before a court relating to securities legislation or with a securities regulatory authority during the financial year ended December 31, 2017.

INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

To the knowledge of the Company, there hasn't been any material interest, direct or indirect, of any director or executive officer of the Company, or a person or company that is the direct or indirect beneficial owner of, or who exercises control or direction over, more than 10 percent of any class or series of the outstanding voting securities of the Company, or any associate or affiliate thereof, within the three most recently completed financial years or during the current financial year, that has materially affected or is reasonably expected to materially affect the Company, other than as set out herein.

TRANSFER AGENT AND REGISTRAR

The Company's Transfer Agent and Registrar is TSX Trust Company with offices located in Toronto, Ontario, Canada.

MATERIAL CONTRACTS

On July 1, 2004, Theralase Biotech Inc. entered into an exclusive worldwide licensing agreement with VTIP, the intellectual property office of Virginia Tech, representing Dr. Karen Brewer a chemistry professor at Virginia Tech. The agreement granted Theralase any and all rights to all allowed claims in intellectual property of United States Patent Application File No. 20030180767 dated September 23, 2003, titled *Supramolecular Complexes as Photoactivated DNA Cleavage Agents* and in VTIP Invention disclosure #01.124 *Molecular Design for Supramolecular Complexes as a Photoactivated DNA Cleavage Agent* and all intellectual property rights related to or arising from subsequent improvements by the parties during the currency of the agreement in PDT related therapies and in general, utilizing PDT for medical related applications. Medical related applications; include, but are not limited to: research and development of the destruction of biological tissue, especially hyperproliferating cells, such as cancer and destruction of microbial entities, such as bacteria. The license will expire ten years following the expiry of the last patent, including improvements. Based on the latest expiry date of the Company's

existing patents, the license is expected to continue in effect until May 21, 2040. In consideration for the license as granted herein, Theralase agreed to pay VTIP a license issue fee, license maintenance fee, milestone payments and a royalty of 2.5% of net sales received by Theralase. Each such payment shall be made within thirty days of the end of each quarter.

On September 9, 2011, Theralase entered into an exclusive worldwide licensing agreement with Dr. Sherri McFarland, a chemistry professor at Acadia University, granting Theralase any and all rights to all allowed claims in intellectual property of *Invention Disclosure* dated July 22, 2011 and all intellectual property rights related to or arising from subsequent improvements by the parties during the currency of the agreement in cancer related therapies and in general, utilizing PDT for the following applications: medical, sterilization, cosmetic, bacteria, virus, cancer related therapies or PDT. Medical or sterilization related applications include, but are not limited to: research and development of the destruction of biological tissue, especially hyperproliferating cells, such as cancer and destruction of microbial entities, such as bacteria. The license will expire twenty years following the expiry of the last patent, including improvements. Based on the latest expiry date of the Company's existing patents, the license is expected to continue in effect until April 15, 2053. In consideration for the license as granted herein, Theralase agreed to pay Dr. Sherri McFarland milestone payments and a royalty of 3% of net sales received by Theralase. Each such payment shall be made within sixty days of the end of each quarter.

INTERESTS OF EXPERTS

Marcum LLP (New York, New York) are the auditors of the Company who have prepared an independent auditors' report dated April 30, 2018 with respect to the consolidated financial statements of the Company for its fiscal year ended December 31, 2017. Marcum LLP is independent with respect to the Company within the meaning of the U.S. Securities and Exchange Commission rules on auditor independence.

ADDITIONAL INFORMATION

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of the Company's securities and securities authorized for issuance under the Company's equity compensation plans, where applicable, is contained in the Company's Management Information Circular prepared in connection with the annual and special meeting of shareholders of the Company held on June 22, 2018. Additional financial information relating to the Company is contained in the Company's financial statements and associated MD&A for its most recently completed fiscal year ended December 31, 2017.

All of these documents and other ancillary information relating to Theralase are available on SEDAR (www.sedar.com).

APPENDIX "A"

AUDIT COMMITTEE CHARTER

This charter governs the operations of the Audit Committee ("**Committee**") of Theralase Technologies Inc. ("**Company**"). The purpose, composition, responsibilities and authority of the Committee are set out in this Charter.

This Charter and the constating documents of the Company and such other procedures, not inconsistent therewith, as the Committee may adopt from time to time, shall govern the meetings and procedures of the Committee.

1. Purpose

The Committee shall provide assistance to the Board of Directors of the Company ("**Board**") in fulfilling its oversight responsibility to the shareholders, potential shareholders, the investment community, and others relating to:

- (a) the integrity of the Company's financial statements;
- (b) the financial reporting process;
- (c) the systems of internal accounting and financial controls;
- (d) financial risk management;
- (e) the performance of the Company's internal audit function (if applicable) and independent (external) auditors;
- (f) the independent auditors' qualifications and independence; and
- (g) the Company's compliance with ethics policies and legal and regulatory requirements.

2. Composition

The Committee shall be composed of at least three (3) directors of the Company ("**Members**"), the majority of whom are independent as defined by applicable Canadian laws and regulations as well as the rules of relevant stock exchange(s).

All Members shall have the level of financial literacy required by National Instrument 52-110 – *Audit Committees* or any successor policy, and by applicable Canadian laws and regulations as well as the rules of relevant stock exchange(s), as applicable.

Members shall be appointed by the Board and shall serve until they resign, cease to be a director or are removed or replaced by the Board.

3. Authority

The Committee is authorized to carry out its responsibilities as set out in this Charter, and to make recommendations to the Board arising therefrom.

In discharging its oversight role, the Committee is empowered to investigate any matter brought to its attention with full access to all books, records, facilities and personnel of the Company and to engage, and to set and pay

the reasonable compensation of, independent accountants, legal counsel and other advisers as it determines necessary to carry out its duties.

The Committee may also communicate directly with the auditors, legal and other advisors, management and employees of the Company to carry out its responsibilities and duties set out in this Charter.

The Company shall pay directly or reimburse the Committee for the reasonable expenses incurred by the Committee in carrying out its responsibilities, including ordinary administrative expenses of the Committee.

4. Responsibilities

The primary responsibility of the Committee is to oversee the Company's financial reporting process on behalf of the Board and report the results of its activities to the Board. While the Committee has the responsibilities and powers set forth in this Charter, it is not the duty of the Committee to plan or conduct audits or to determine that the Company's financial statements are complete and accurate and are in accordance with generally accepted accounting principles. Management is responsible for the preparation, presentation and integrity of the Company's financial statements and for the appropriateness of the accounting principles and reporting policies that are used by the Company. The independent auditors are responsible for auditing the Company's financial statements and for reviewing the Company's unaudited interim financial statements, if requested.

The Committee, in carrying out its responsibilities, believes its policies and procedures should remain flexible, in order to best react to changing conditions and circumstances. The Committee should take appropriate actions to set the overall corporate "tone" for quality financial reporting, sound business risk practices and ethical behaviour. The following shall be the principal direct responsibilities of the Committee:

- (a) Recommend to the Board the appointment and termination (subject, if applicable, to shareholder approval or ratification) and compensation of the independent auditors and oversee the work of independent auditors engaged to prepare or issue an auditor's report or to perform other audit review or attest services, including resolution of disagreements between management and the auditors regarding financial reporting. The Committee shall arrange for the independent auditors to report directly to the Committee.
- (b) Pre-approve all audit and non-audit services provided by the independent auditors to the Company and any of its subsidiaries and not engage the independent auditors to perform the specific non-audit services prohibited by law or regulation. The Committee may delegate pre-approval authority to a Member. The decisions of any Member to whom pre-approval authority is delegated must be presented to the full Committee at its next scheduled meeting.
- (c) At least annually, obtain and review a report by the independent auditors describing:
 - (i) the firm's internal control procedures;
 - (ii) any material issues raised by the most recent internal control review, or peer review, of the firm, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the firm, and any steps taken to deal with any such issues; and
 - (iii) all relationships between the independent auditor and the Company (to assess the auditor's independence).
- (d) Establish clear hiring policies for employees, partners, former employees and former partners of the current and former independent auditors of the Company that meet the requirements

of applicable securities laws and stock exchange rules.

- (e) Discuss with the auditors the overall scope and plans for audits of the Company's financial statements, including the adequacy of staffing and compensation. Ensure there is rotation of the audit partner having primary responsibility for the independent audit of the Company at such intervals as may be required.
- (f) Discuss with management and the auditors the adequacy and effectiveness of the accounting and financial controls, including the Company's policies and procedures to assess, monitor, and manage business risk, and legal and ethical compliance programs (e.g. Company's Code of Business Conduct and Ethics).
- (g) Periodically meet separately with management and the auditors to discuss issues and concerns warranting Committee attention. The Committee shall provide sufficient opportunity for the auditors to meet privately with the Members, which shall at minimum include an *in camera* meeting following each quarterly meeting. The Committee shall review with the auditor any audit problems or difficulties and management's response.

The processes set forth represent a guide with the understanding that the Committee may supplement them as appropriate.

5. Chair Responsibilities

The Chair of the Committee shall provide leadership to the Committee to enhance the Committee's effectiveness and ensure adherence to this Charter:

- (a) Convene and preside over Committee meetings and ensure they are conducted in an efficient, effective and focused manner that promote meaningful discussion;
- (b) Assist management with the preparation of an agenda and ensure that meeting materials are prepared and disseminated in a timely manner and are appropriate in terms of relevance, efficient format and detail;
- (c) Adopt procedures to ensure that the Committee can conduct its work effectively and efficiently, including with respect to committee structure, composition and management of meetings;
- (d) Ensure that the Committee has sufficient time and information to make informed decisions; and
- (e) Provide leadership to the Committee and management with respect to matters covered by this Charter.

The Committee shall designate one of its Members as chair of the Committee ("**Chair**").

The Corporate Secretary of the Company, or the individual designated as fulfilling the function of Secretary of the Company, will be the secretary of all meetings and will maintain minutes of all meetings and deliberations of the Committee. In the absence of the Corporate Secretary at any meeting, the Committee will appoint another person who may, but need not, be a Member to be the secretary of that meeting.

6. Specifically Delegated Duties

For purposes of this Charter, specific accounting, financial and treasury related duties delegated to the Committee by the Company's Board of Directors include:

Accounting and Financial

- (a) Receive reports from the independent auditor on the critical policies and practices of the Company and all alternative treatments of financial information within generally accepted accounting principles that have been discussed with management.
- (b) Where applicable, review management's assertion on its assessment of the effectiveness of internal controls as of the end of the most recent fiscal year and the independent auditor's report on management's assertion.
- (c) Review and discuss annual and interim earnings press releases and recommend same to the Board for approval before the Company publicly discloses this information.
- (d) Review the interim quarterly unaudited financial statements and disclosures under Management's Discussion and Analysis of Financial Condition and Results of Operations with management and, where applicable, the independent auditors, and recommend same to the Board for approval, prior to the release to the public and filing of the Company's Quarterly Report or their inclusion in any filing with regulatory authorities. Also, the Committee shall discuss the results of the quarterly review, if any, and any other matters required to be communicated to the Committee by the independent auditors under generally accepted auditing standards.
- (e) Review with management and the independent auditors the annual financial statements and disclosures under Management's Discussion and Analysis of Financial Condition and Results of Operations to be included in the Company's Annual Report to shareholders and any other filing with regulatory authorities, including their judgment about the quality, not just the acceptability of accounting principles, the reasonableness of significant judgments, and the clarity of the disclosures in the financial statements, before recommending approval by the Board and the release thereof to the public and filing with regulatory authorities.
- (f) The Committee shall discuss any matters required to be communicated to the Committee by the independent auditors under generally accepted auditing standards and shall specifically review with the independent auditors, upon completion of their audit:
 - (i) the contents of their report;
 - (ii) the scope and quality of the audit work performed;
 - (iii) the adequacy of the Company's financial and auditing personnel;
 - (iv) co-operation received from the Company's personnel during the audit;
 - (v) significant transactions outside of the normal business of the Company; and
 - (vi) significant proposed adjustments and recommendations for improving internal accounting controls, accounting principles or management systems.
- (g) Establish procedures for the review of the public disclosure of financial information extracted from the financial statements of the Company and periodically assess the adequacy of such procedures.

Approve investment policies and appoint investment managers, where appropriate, for the Company's retirement and other funded benefit plans, if any.

Perform such other duties in respect of financial matters as, in the opinion of the Board, should be performed by the Committee.

7. Meetings and Proceedings

The Committee shall meet as frequently as required, but not less than four times each year. Any Member or the independent auditors of the Company may call a meeting of the Committee.

The agenda of each meeting of the Committee may include input from the independent auditors, directors, officers and/or employees of the Company, as appropriate. Meetings will include presentations by management, professional advisers and/or consultants when appropriate, and will allow sufficient time to permit a full and open discussion of agenda items.

Forty-eight (48) hours advance notice of each meeting will be given to each Member verbally, by telephone or by email, unless all Members are present and waive notice, or if those absent waive notice before or after a meeting. Members may attend all meetings either in person or by conference call.

Advance notice of each meeting shall also be given to the auditors of the Company.

The quorum for each meeting of the Committee is a majority of the Members. The Chair of the Committee shall chair each meeting. In the absence of the Chair, the other Members may appoint one of their number as chair of a meeting. The chair of a meeting shall not have a second or casting vote.

The Chair of the Committee or his delegate shall report to the Board following each meeting of the Committee. The Secretary or his delegate shall keep minutes of all meetings of the Committee, including all resolutions passed by the Committee. Minutes of meetings shall be distributed to the Members and the other directors of the Company after preliminary approval thereof by the Chair of the Committee.

The Committee shall meet regularly, at a minimum quarterly, *in camera* to facilitate full communication.

8. Self-Assessment

The Committee and the Board shall annually assess the effectiveness of the Committee with a view to ensuring that the performance of the Committee accords with best practices.

The Committee shall review and reassess this Charter at least annually and obtain the approval of the Board for any changes.

Last approved: July 30, 2018
Approved by: Board of Directors